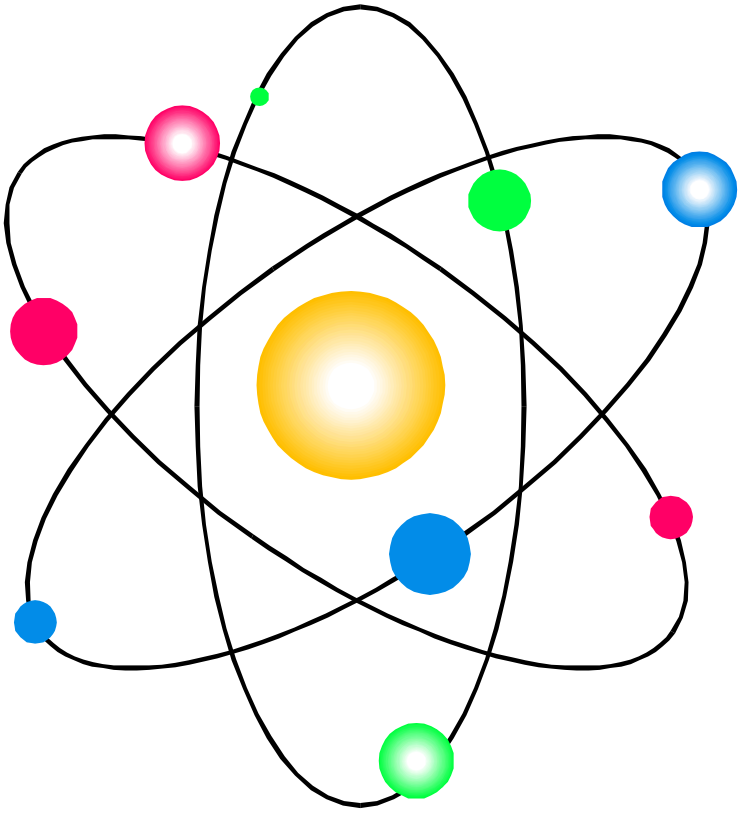
HIGH SCHOOL SCIENCE

SCORING GUIDES
FOR
RELEASED ITEMS



Missouri Assessment Program
Spring 1998

HIGH SCHOOL SCIENCE SCORING GUIDE

for MAP released items

Spring, 1998

ITEM l-4 points

Content Standard: **IV.B.2**
Process **Standard:** 1.6, 1.10

Answers for (a):
Gravity
The pull of the string
Air resistance
Centripetal force
Centrifugal force

Answers for(b):
It would continue in a straight line.
It would continue at the same speed.
It would fly off/sling outward.

Scoring:
4 elements - 3 **from** (a) and 1 **from (b)** = 4 points
3 elements - 3 **from** (a) OR 2 **from** (a) and 1 from **(b)** = 3 points
2 elements - 2 **from** (a) OR 1 **from** (a) and 1 from **(b)** = 2 points
1 element - 1 **from** (a) OR(b) = **1 point**
Other = 0 points

ITEM 2-2 points

Content **Standard:** VILE2
Process Standards: 1.10

Answer to first question: The **frequency** will go up/increase.

Answer to second question: Because more offspring with the **gene** will survive and reproduce since the gene allows the plant to absorb more nutrients **from** the soil.

scoring: 2
2 elements = 2 points
1 element = 1 point
Other = 0 points

ITEM 3-1 point

Content **Standard:** VIA.9
Process Standard 1.6, **1.10, 2.1**

Answer: Rain con leach waste into the soil to enter ground water **basins/aquifers/rivers/lakes.**
(Any reasonable response indicating that the student understands how waste disposed of in a landfill can enter water sources.

Scoring: **1** element **= 1** point
Other = 0 points

ITEM 4-2 **points**

Content Standard **II.A.1**
Process Standard 1.6, **1.10, 2.1,4.1**

Answer to (a): **Malaria** is transmitted by a (protozoa via) species of mosquito, not by night air.:
Answer to **(b):** The mosquitoes that transmit malaria, or yellow fever, are not native to **Missouri.**
The mosquitoes require certain environmental/climate conditions that are not common in Missouri.

scoring: 2 elements **-** 1 **from** (a) and **1 from (b)** = 2 points
1 element **-** 1 **from** either (a) or(b) = 1 point
Other = 0 points

ITEM S-3 **points**

Content Standard: **V.A.2**
Process standard: 1.6, 1.10

First **Blank:**
Sufficient mass
Sufficient temperature
Fusion (No credit for fission)
Gravity

Second **Blank:**
Helium
Elements up to aud including iron (oxygen, nitrogen, carbon)
(No credit for carbon dioxide, hydogen)

Third **Blank:**
Red giant
White dwarf
Bead star (black **dwarf)**
Nova/supernova
Nebula
(No credit for black hole, neutron star)

Scoring: 3 elements **-** 3 points
2 elements = 2 points
1 element = 1 point
Other = 0 points

ITEM 6-3 points

Content **Standard:** VIII.A.5
F'rocess Standard: 1.6, **1.10, 2.1**

Answer to (a): **Energy** flows from the water to the ice.

Answer to **(b):** The molecules of warm water collide **with** molecules of ice.
The molecules of ice begin to vibrate faster as a result of this collision.
The **attraction** between molecules is weakened as a result of this increased activity.

Scoring: 3 elements - (a) and 2 **from (b)** = 3 points
2 elements - (a) and **1** from **(b)** = 2 points
1 element - (a) or **1** from **(b)** = 1 point
Other = 0 points

ITEM 7-3 **points**

Content Standard: VIII.B.2
Process Standard 1.6, **1.10, 2.1**

Answers: No grass could result in there being no/fewer rabbits.
No/fewer rabbits will cause the foxes to eat more squirrels and weasels, thus **reducing** these two **populations.**

Reduced weasel population will reduce nredation on mice, thus increasing the mouse population. Reduced squirrel population will result in more shrubs available for mice, so the mouse population will increase.

(No hawk generated response is credited. No decrease in fox population is credited Merely mentioning decreased predation is not sufficient without other qualifiers (or other elements).)

Scoring: 3 elements - 3 points
2 elements = 2 points
1 element = 1 point
Other = 0 points

ITEM 8-2 **points**

Content **Standard:** IV.A. 1
Process Standard: **1.5, 1.6, 1.8, 2.1, 3.5**

First **answer:** Constantspeed
AND
Travels the same distance in each unit of time (d/t is the same at all points)

Second answer: The cyclist could make a turn without slowing.

Scoring: 2 elements = 2 points
1 element = 1 point
Other = 0 points

PERFORMANCE EVENT ITEM SCORING GUIDE

ITEM 1-3 points

Content Standard: LA.3
Process standards: 1.3

Possible answers: The volume/size of tank/aquarium
Amount of water
Type/number of plants/objects in aquarium
Chemical content of water/purity, pr pH of water
amount/type of food given to fish
Tie of feeding
The initial size/type of bass
Amount of sunlight/light
Room Temperature

(Do not give credit to the following without qualifiers: Food/nutrients, Same water, Type of aquarium, Enviromnent, Location, Type of fish)

Scoring: 3 elements = 3 points
2 elements = 2 points
1 element = 1 point
Other = 0 points

ITEM 2-1 point

Content Standard: LA.4
Process standards: 1.6, 2.1

Answer: As temperature increases, the amount of dissolved oxygen decreases and the mass of the fish decreases.

Scoring: 1 element. = 1 point
Other=Opoints

ITEM 3—4 points

Content Standard: II.A.2
Process Standards: 1.3, 2.1, 3.8

Answer: The advantages and the disadvantage need to be specific for the choice made and significant.
The resolution offers a weighing/prioritizing of advantage(s) compared to disadvantage.

Scoring: 2 advantages + 1 disadvantage + resolution = 4 points
any combination of 3 answers = 3 points
any combination of 2 answers = 2 points
any one answer = 1 point
Other = 0 points